IN THE CLAIMS

1. (Previously Presented) A receiver unit comprising:

a receiver operative to receive and condition a received signal in accordance with one or more control signals to generate a conditioned signal and operative to downconvert and digitize the conditioned signal to provide inphase (I_{IN}) and quadrature (Q_{IN}) samples, wherein the receiver includes one or more circuit elements having one or more characteristics that are adjustable by the one or more control signals;

a controller coupled to the receiver and operative to determine a phase rotation corresponding to an operating state defined by the one or more control signals; and

a phase rotator coupled to the receiver and operative to receive and rotate a phase of the conditioned signal by an amount related to the determined phase rotation, wherein the phase rotator rotates the phase of the I_{IN} and Q_{IN} samples to generate phase rotated I_{ROT} and Q_{ROT} samples, the phase rotator comprising

a first set of multiplexers operative to receive the I_{IN} and Q_{IN} samples and to provide the I_{IN} or Q_{IN} samples based on a first signal,

a first set of exclusive-OR gates coupled to the first set of multiplexers and operative to selectively invert the received samples based on a second signal, wherein outputs of the first set of exclusive-OR gates comprise the I_{ROT} samples,

a second set of multiplexers operative to receive the Q_{IN} and I_{IN} samples and to provide the Q_{IN} or I_{IN} samples based on the first signal, and

a second set of exclusive-OR gates coupled to the second set of multiplexers and operative to selectively invert the received samples based on a third signal, wherein outputs of the second set of exclusive-OR gates comprise the Q_{ROT} samples.

2. (Previously Presented) The receiver unit of claim 1, further comprising:

a demodulator coupled to the phase rotator and operative to process the I_{ROT} and Q_{ROT} samples to provide pilot symbols and data symbols, and to coherently demodulate the data symbols with the pilot symbols to generate recovered data.

3. (Original) The receiver unit of claim 2, wherein the demodulator includes

a pilot correlator operative to recover the pilot symbols from the I_{ROT} and Q_{ROT} samples, and

a data correlator operative to recover the data symbols from the I_{ROT} and Q_{ROT} samples.

4. (Previously Presented) The receiver unit of claim 1, wherein the phase rotator is operative to provide phase rotation in discrete increments.

5. (Original) The receiver unit of claim 4, wherein the phase rotator is operative to provide phase rotation in 90° increments.

6. (Previously Presented) The receiver unit of claim 1, wherein the receiver includes

at least one section comprising a plurality of signal paths, wherein each signal path is associated with a particular phase, and wherein at least one control signal is provided to switch the received signal through one of the signal paths.

7. (Previously Presented) A phase rotator for use with a receiver and operative to receive and rotate a phase of a conditioned signal output by the receiver by an amount related to the determined phase rotation, wherein the phase rotator rotates the phase of inphase (I_{IN}) and quadrature (Q_{IN}) samples to generate phase rotated I_{ROT} and Q_{ROT} samples, comprising:

a first set of multiplexers operative to receive the I_{IN} and Q_{IN} samples and to provide the I_{IN} or Q_{IN} samples based on a first signal,

a first set of exclusive-OR gates coupled to the first set of multiplexers and operative to selectively invert the received samples based on a second signal, wherein outputs of the first set of exclusive-OR gates comprise the I_{ROT} samples,

a second set of multiplexers operative to receive the Q_{IN} and I_{IN} samples and to provide the Q_{IN} or I_{IN} samples based on the first signal, and

a second set of exclusive-OR gates coupled to the second set of multiplexers and operative to selectively invert the received samples based on a third signal, wherein outputs of the second set of exclusive-OR gates comprise the Q_{ROT} samples.

8. (Previously Presented) A receiver unit comprising:

means for receiving and conditioning a received signal in accordance with one or more control signals to generate a conditioned signal and operative to downconvert and digitize the conditioned signal to provide inphase (I_{IN}) and quadrature (Q_{IN}) samples, wherein the means for receiving and conditioning comprises one or more circuit elements having one or more characteristics that are adjustable by the one or more control signals;

means for controlling coupled to the means for receiving and conditioning, the means for controlling being operative to determine a phase rotation corresponding to an operating state defined by the one or more control signals; and

means for phase rotating coupled to the receiver and operative to receive and rotate a phase of the conditioned signal by an amount related to the determined phase rotation, wherein the phase rotator rotates the phase of the I_{IN} and Q_{IN} samples to generate phase rotated I_{ROT} and Q_{ROT} samples, the means for phase rotating comprising

first means for multiplexing operative to receive the I_{IN} and Q_{IN} samples and to provide the I_{IN} or Q_{IN} samples based on a first signal,

first means for selectively inverting the received samples based on a second signal and outputting I_{ROT} samples,

second means for multiplexing operative to receive the Q_{IN} and I_{IN} samples and to provide the Q_{IN} or I_{IN} samples based on the first signal, and

second means for selectively inverting the received samples based on a third signal and for outputting the Q_{ROT} samples.

9. (New) The phase rotator of claim 7, wherein the phase rotator is operative to provide phase rotation in discrete increments.

10. (New) The phase rotator of claim 7, wherein the phase rotator is operative to provide phase rotation in 90° increments.

11. (New) The receiver unit of claim 8, further comprising:

a means for demodulating coupled to the means for phase rotating and operative to process the I_{ROT} and Q_{ROT} samples to provide pilot symbols and data symbols, and to coherently demodulate the data symbols with the pilot symbols to generate recovered data.

12. (New) The receiver unit of claim 8, wherein the means for phase rotating is operative to provide phase rotation in discrete increments.

13. (New) The receiver unit of claim 8, wherein the receiver includes

at least one section comprising a plurality of signal paths, wherein each signal path is associated with a particular phase, and wherein at least one control signal is provided to switch the received signal through one of the signal paths.

14. (New) The receiver unit of claim 11, wherein the means for demodulating includes

a means for correlating pilot symbols operative to recover the pilot symbols from the I_{ROT} and Q_{ROT} samples, and

a means for correlating data symbols operative to recover the data symbols from the I_{ROT} and Q_{ROT} samples.

15. (New) The receiver unit of claim 12, wherein the means for phase rotating is operative to provide phase rotation in 90° increments.

16. (New) A method of receiving comprising:

receiving and conditioning a received signal in accordance with one or more control signals to generate a conditioned signal and downconverting and digitizing the conditioned signal to provide inphase (I_{IN}) and quadrature (Q_{IN}) samples, wherein the receiving includes the one or more control signals adjusting one or more characteristics in one or more circuit elements;

determining a phase rotation corresponding to an operating state defined by the one or more control signals; and

receiving and rotating a phase of the conditioned signal by an amount related to the determined phase rotation, wherein the phase rotating the phase of the I_{IN} and Q_{IN} samples generating phase rotated I_{ROT} and Q_{ROT} samples, the phase rotating comprising

receiving the I_{IN} and Q_{IN} samples and providing the I_{IN} or Q_{IN} samples based on a first signal,

selectively inverting the received samples based on a second signal, wherein outputs of a first set of exclusive-OR gates comprise the I_{ROT} samples,

a second set of multiplexers receiving the Q_{IN} and I_{IN} samples and providing the Q_{IN} or I_{IN} samples based on the first signal, and

selectively inverting the received samples based on a third signal, wherein outputs of a second set of exclusive-OR gates comprise the Q_{ROT} samples.

17. (New) The method of claim 16, further comprising:

demodulating the I_{ROT} and Q_{ROT} samples to provide pilot symbols and data symbols, and coherently demodulating the data symbols with the pilot symbols to generate recovered data.

18. (New) The method of claim 16, wherein the phase rotating is providing phase rotation in discrete increments.

19. (New) The method of claim 16, wherein the method further includes associating each of a plurality of signal paths with a particular phase, and switching the received signal through one of the signal paths.

20. (New) The method of claim 17, wherein the demodulating includes

pilot correlating to recover the pilot symbols from the I_{ROT} and Q_{ROT} samples, and

data correlating to recover the data symbols from the I_{ROT} and Q_{ROT} samples.

21. (New) The method of claim 18, wherein the phase rotating is providing phase rotation in 90° increments.